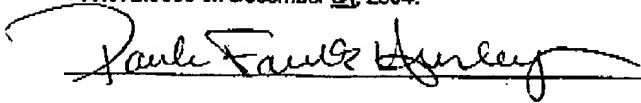


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CERTIFICATE OF TRANSMISSION UNDER 37 CFR 1.8
I hereby certify that this correspondence is being facsimile transmitted
to the United States Patent and Trademark Office at Fax No.
703.872.9306 on December 21, 2004.



Atty Docket No.: HBES 1018-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Magued M. Bishay, et al.

Application No.: 09/042,124

Filed: March 13, 1998

Title: **Method and Apparatus for Low Cost
Line-Based Video Compression of Digital
Video Stream Data**

Group Art Unit: 2613

Examiner: Allen C. Wong

CUSTOMER NO. 49413

**POWER OF ATTORNEY BY ASSIGNEE TO EXCLUSION OF INVENTOR
UNDER 37 C.F.R. § 3.71 WITH REVOCATION OF PRIOR POWERS**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The undersigned ASSIGNEE of the entire interest in the above-identified application for
letters patent hereby appoints:

| | | |
|-----------------------|---|-----------------|
| Mark A. Haynes | - | Reg. No. 30,846 |
| Ernest J. Beffel, Jr. | - | Reg. No. 43,489 |
| Warren S. Wolfeld | - | Reg. No. 31,454 |
| James F. Hann | - | Reg. No. 29,719 |
| Bill Kennedy | - | Reg. No. 33,407 |
| Kenta Suzue | - | Reg. No. 45,145 |

to prosecute this application and transact all business in the United States Patent and
Trademark Office in connection therewith and hereby revokes all prior powers of attorney;
said appointment to be to the exclusion of the inventors and the inventors' attorneys in
accordance with the provisions of 37 C.F.R. §3.71.

The following evidentiary documents are in the chain of title from the original owner to the Assignee:

XX the Assignment recorded beginning at reel/frame number **009073/0538** on **March 27, 1990.**

XX the Assignment recorded beginning at reel/frame **013496/0589** on **August 14, 2002.**

XX a copy of an Assignment attached hereto, which Assignment previously has been forwarded to the Patent and Trademark Office for recording.

Pursuant to 37 C.F.R. § 3.73(b) the undersigned Assignee hereby certifies that, to the best of Assignee's knowledge and belief, title is in the identified Assignee.

Direct all telephone calls to ERNEST J. BEFFEL, JR., ESQ. at (650) 712-0340.

Address all correspondence to:

Customer Number 49413

HAYNES BEFFEL & WOLFELD LLP
P.O. Box 366
Half Moon Bay, CA 94019
(650) 712-0340 (phone)
(650) 712-0263 (fax)

ESS TECHNOLOGIES INTERNATIONAL, INC.,
Assignee

Dated: December 20, 2004

By: James B. Boyd

Name: James B. Boyd
Title: CFO and Senior Vice President

PATENT
Docket No. 37213-00000

ASSIGNMENT FOR PATENT

WHEREAS:

Pictos Technologies, Inc., a corporation organized and under the laws of the State of Delaware, having the address of 4311 Jamboree Road Newport Beach, CA 92660

(hereinafter referred to as **ASSIGNOR(S)**), owns an interest in, to and under inventions listed in Appendix A, and in, to and under Letters Patent or similar legal protection to be obtained therefore in the United States and in any and all foreign countries for which applications for Letters Patent of the United States have been filed on dates listed in Appendix A, and

WHEREAS:

ESS Technologies International, Inc., a corporation organized and under the laws of the Cayman Islands having a place of business at 48401 Fremont Blvd, Fremont, CA 94538

(hereinafter referred to as **ASSIGNEE**), is desirous of acquiring **ASSIGNOR'S** entire interest in, to and under said inventions and in, to and under Letters Patent or similar legal protection to be obtained therefore in the United States and in any and all foreign countries.

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN:

Be it known that in consideration of good and valuable consideration, the receipt of which is hereby acknowledged, **ASSIGNOR(S)** hereby sells, assigns and transfers to **ASSIGNEE**, its successors, legal representatives and assigns, the full and exclusive right, title and interest to said discoveries or inventions in the United States and its territorial possessions and in all foreign countries and to all Letters Patent or similar legal protection in the United States and its territorial possessions and in any and all foreign countries to be obtained for said invention by said application or any continuation, division, renewal, substitute or reissue thereof or any legal equivalent thereof in a foreign country for the full term or terms for which the same may be granted.

I, **SAID ASSIGNOR(S)**, hereby authorize and request the Commissioner of Patents and Trademarks of the United States of America and any Official of any country or countries foreign to the United States of America whose duty it is to issue Letters Patent on applications as aforesaid, to issue all such Letters Patent for said discoveries or inventions to the **ASSIGNEE**, as assignee of the entire right, title and interest in, to and under the same, for the sole use and behalf of the **ASSIGNEE**, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

I, **SAID, ASSIGNOR(S)**, hereby covenant that I have full right to convey the entire right, title and interest herein sold, assigned, transferred and set over;

AND I, **SAID ASSIGNOR(S)** hereby further covenant and agree that the **ASSIGNEE**, its successors, legal representatives, or assigns, may apply for foreign Letters Patent on said discoveries or inventions and claim the benefits of the International Convention, and that I will, at any time, when called upon to do so by the **ASSIGNEE**, its successors, legal representatives, or assigns, communicate to the **ASSIGNEE**, its successors, legal representatives, or assigns, as the case may be, any facts known to me respecting said discover or invention, and execute and deliver and all lawful papers that may be necessary or desirable to perfect the title to the said discoveries or inventions, the said applications and the said Letters Patent in the **ASSIGNEE**, its successors, legal representatives and assigns, and that it reissues of the said Letters Patent or disclaimers relating thereto, or divisions, continuations, or re-filings of the said applications, or any thereof, shall hereafter be desired by the **ASSIGNEE**, its successors, legal representatives, or assigns, sign all lawful papers, make all rightful oaths, execute and deliver all such disclaimers and all divisional, continuation and reissue applications so desired, and do all lawful acts requisite for the application for such reissues and the procuring thereof and for the filing of such disclaimers and such applications, and generally do everything possible to aid the **ASSIGNEE**, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said invention or discover in all countries, and without further compensation but at the expense of the **ASSIGNEE**, its successors, legal representatives and assigns

Docket No. 37213-00000

Assignor's signature: _____

Fred S.L. Chan

Citizenship: _____

USA

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal this 25 day of June, 2004

STATE OF

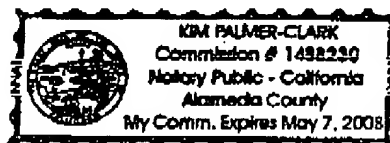
) California

SS.:

COUNTY OF) Alameda

On this 25 day of June, 2004 before me, the undersigned authority, personally appeared to me known and known to me to be the individual who is described in and who executed the foregoing Assignment, and who duly acknowledged to me that he executed the same as his own voluntary act and deed for the uses and purposed therein specified.

Notary Public



ATTACHMENT A

GROUP 1

| Issued Patents |
|----------------|
| 5,381,054 |
| 5,440,079 |
| 5,502,299 |
| 5,572,074 |
| 5,572,643 |
| 5,706,369 |
| 5,892,540 |
| 5,929,434 |
| 5,932,875 |
| 6,040,567 |
| 6,153,955 |
| 6,256,350 |
| 6,271,884 |
| 6,305,853 |
| 6,437,826 |
| 6,441,453 |
| 6,441,857 |
| 6,462,781 |
| 6,486,522 |
| 6,493,030 |
| 6,498,331 |
| 6,507,364 |
| 6,532,040 |
| 6,534,796 |
| 6,535,247 |
| 6,563,363 |
| 6,580,456 |
| 6,587,142 |
| 6,593,607 |
| 6,597,394 |
| 6,617,562 |
| 6,639,204 |
| 6,677,996 |
| 6,697,111 |
| 6,744,032 |

GROUP 2

| Applications |
|--------------|
| 09/034,819 |
| 09/062,343 |
| 09/188,831 |
| 09/188,871 |
| 09/188,996 |
| 09/268,913 |
| 09/371,491 |
| 09/407,395 |
| 09/407,501 |
| 09/407,556 |
| 09/408,198 |
| 09/408,919 |
| 09/410,210 |
| 09/468,696 |
| 09/538,889 |
| 09/557,454 |
| 09/672,987 |
| 09/676,538 |
| 09/676,551 |
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| 09/677,227 |
| 09/679,854 |
| 09/680,036 |
| 09/680,037 |
| 09/731,640 |
| 09/733,788 |
| 09/742,786 |
| 09/795,033 |
| 09/801,401 |
| 09/815,584 |
| 09/823,941 |
| 09/852,397 |
| 09/882,576 |
| 09/935,213 |
| 09/935,231 |

ATTACHMENT A CONTINUED

| |
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| |
| 09/949,688 |
| 09/977,444 |
| 10/016,713 |
| 10/057,731 |
| 10/072,345 |
| 10/102,042 |
| 10/102,105 |
| 10/102,410 |
| 10/113,545 |
| 10/119,982 |
| 10/136,268 |
| 10/136,413 |
| 10/293,510 |
| 60/376,690 |
| 60/376,748 |
| 60/376,750 |
| 60/376,751 |

APPENDIX A

ISSUED PATENTS

| Patent No. | Title | Inventor | Reel/ Frame Nos. | Date of Recordation |
|------------|--|--------------------|-----------------------|------------------------|
| 5,381,054 | Multiple input comparator circuit for a switched resistive network | Standley, David L. | 013699/0267 | 01/29/2003 |
| 5,440,079 | Object-background discrimination using analog VLSI circuit | Mathur , et al. | 013699/0267 | 01/29/2003 |
| 5,502,299 | Current ratio circuit for multi-color imaging | Standley, David L. | 013699/0267 | 01/29/2003 |
| 5,572,074 | Compact photosensor circuit having automatic intensity range control | Standley, David L. | 013699/0267 | 01/29/2003 |
| 5,572,643 | Web browser with dynamic display of information objects during linking | Judson, David H. | 011911/0220 (ZING) | 06/19/2001 |
| 5,706,369 | Base-n resolution converter | Wang , et al. | 013699/0267 | 01/29/2003 |
| 5,892,540 | Low noise amplifier for passive pixel CMOS imager | Kozlowski , et al. | 013699/0267 | 01/29/2003 |
| 5,929,434 | Ultra-low noise high bandwidth interface circuit for single-photon readout of photodetectors | Kozlowski , et al. | 013699/0267 | 01/29/2003 |
| 5,932,875 | Single piece integrated package and optical lid | Chung , et al. | 013699/0267 | 01/29/2003 |
| 6,040,567 | Method and device for controlling fast periodic motion | Neher , et al. | 013496/0589 | 08/14/2002 |
| 6,153,955 | Implementing comprehensive PID engine with single bit adder | Cheung , et al. | 013496/0589 | 08/14/2002 |
| 6,256,350 | Method and apparatus for low cost line-based video compression of digital video stream data | Bishay , et al. | 013496/0589 | 08/14/2002 |
| 6,271,884 | Image flicker reduction with fluorescent lighting | Chung , et al. | 013496/0589 | 08/14/2002 |

| Patent No. | Title | Inventor | Reel/ Frame No. | Date of Recordation |
|------------|---|--------------------|---------------------------------|---------------------|
| 6,305,853 | Camera utilizing film and reflective imager | Bishay , et al. | 013496/0589 | 08/14/2002 |
| 6,437,826 | Digital video teleconferencing camera system having a base | Arnold; Thomas A. | 013209/0732 | 08/22/2002 |
| 6,441,453 | Clear coating for digital and analog imagers | Tindle; Gary D. | 011805/0861 (CONEXANT) | 05/09/2001 |
| 6,441,857 | Method and apparatus for horizontally scaling computer video data for display on a television | Wicker , et al. | 013496/0589 | 08/14/2002 |
| 6,462,781 | Foldable teleconferencing camera | Arnold; Thomas A. | 013209/0732 | 08/22/2002 |
| 6,486,522 | Light sensing system with high pixel fill factor | Bishay , et al. | 013496/0589 | 08/14/2002 |
| 6,493,030 | Low-noise active pixel sensor for imaging arrays with global reset | Kozlowski , et al. | 013496/0589 | 08/14/2002 |
| 6,498,331 | Method and apparatus for achieving uniform low dark current with CMOS photodiodes | Kozlowski , et al. | 013496/0589 | 08/14/2002 |
| 6,507,364 | Edge-dependent interpolation method for color reconstruction in image processing devices | Bishay , et al. | 012273/0217 (CONEXANT) | 11/05/2001 |
| 6,532,040 | Low-noise active-pixel sensor for imaging arrays with high speed row reset | Kozlowski , et al. | 012273/0217 (CONEXANT) | 11/05/2001 |
| 6,534,796 | Integrated circuit optics assembly unit | Bishay , et al. | 013496/0589 | 08/14/2002 |
| 6,535,247 | Active pixel sensor with capacitorless correlated double sampling | Kozlowski , et al. | 013496/0589 | 08/14/2002 |
| 6,563,363 | Switched capacitor comparator network | Tay; Hiok-Nam | 013851/0225 | 03/17/2003 |
| 6,580,456 | Programmable timing generator | Jacobs; William S. | 009594/0366 (SIERRA IMAGING) | 11/09/1998 |
| 6,587,142 | Low-noise active-pixel sensor for imaging arrays with high speed row reset | Kozlowski , et al. | 013496/0589 | 08/14/2002 |

| Patent No. | Title | Inventor | Reel/Frame No. | Date of Recordation |
|------------|--|--------------------|---------------------------------|---------------------|
| 6,593,607 | Image sensor with enhanced blue response and signal cross-talk suppression | Hseih; Blay-Cheng | 013496/0589 | 08/14/2002 |
| 6,597,394 | Programmable image transform processor for digital image processing | Duncan , et al. | 009591/0524 (SIERRA IMAGING) | 11/09/1998 |
| 6,617,562 | CMOS imager with discharge path to suppress reset noise | Mann; Richard A. | 011232/0239 (CONEXANT) | 10/05/2000 |
| 6,639,204 | Solid state color imager and method of manufacture | Mann; Richard A. | 013851/0225 | 03/17/2003 |
| 6,677,996 | Real time camera exposure control | Chung , et al. | 013496/0589 | 08/14/2002 |
| 6,697,111 | Compact low-noise active pixel sensor with progressive row reset | Kozlowski , et al. | 013851/0225 | 03/17/2003 |
| 6,744,032 | Arrangement of microlenses in a solid state image sensor for improving signal to noise ratio | Tay; Hiok-Nam | 013851/0225 | 03/17/2003 |
| 6,617,562 | CMOS imager with discharge path to suppress reset noise | Mann; Richard A. | 011232/0239 | 10/05/2000 |

PATENT APPLICATIONS

| Application No. | Title | Inventor | Reel/Frame No. | Date of Recordation |
|-----------------|---|-----------------|----------------|-----------------------|
| 09/034,819 | Method and apparatus for compensating for geometric distortion caused by a lensing system in a digital image detector | Pine, Joshua I. | 010885/0931 | 06/02/2000 |
| 09/062,343 | CMOS imaging apparatus | Ferry et al. | | 04/17/1998 (filed) |

| Application No. | Title | Inventor | Reel/Frame No. | Date of Recordation |
|-----------------|---|-------------------|----------------|---------------------|
| 09/268,913 | Low noise CMOS active-pixel sensor for imaging arrays with high speed global or row reset | Kozlowski et al. | | 03/16/1999 (filed) |
| 09/371,491 | Imager with orientation correction capabilities | Pine, Josh I. | 013496/0589 | 08/14/2002 |
| 09/407,395 | Color imager without filter | Bishay et al. | | 9/28/1999 (filed) |
| 09/407,501 | An integrated camera module | Bishay et al. | 013496/0589 | 08/14/2002 |
| 09/407,556 | Hybrid multiple sensor device | Bishay et al. | 013496/0589 | 08/14/2002 |
| 09/408,198 | Infrared communication system utilizing receiver with multiple photo-sensors | Chung, Randall M. | 013496/0589 | 08/14/2002 |
| 09/410,210 | Active pixel sensor with multiplexed photosensing elements readout scheme | Hseih, Biay-Cheng | | 09/30/1999 (filed) |
| 09/538,889 | Automatic gain control algorithm for pc-based video camera | Dong, Blake, M. | 013496/0589 | 08/14/2002 |
| 09/557,454 | CMOS JFET amplified pixel | Kozlowski et al. | 013496/0589 | 08/14/2002 |
| 09/672,987 | Selectable resolution image capture system | Pine, Joshua I. | 013496/0589 | 08/14/2002 |
| 09/676,538 | Combined digital image across talk correction and interpolation | Najand, Shahriar | 011178/0767 | 09/29/2000 |
| 09/676,551 | NO FILE | | | |
| 09/676,998 | Exposure control in electromechanical imaging devices | Pine, Joshua I. | 013496/0589 | 08/14/2002 |
| 09/677,227 | NO FILE | | | |
| 09/679,854 | NO FILE | | | |
| 09/680,036 | NO FILE | | | |
| 09/731,640 | Imaging system for minimizing pixel defects | Pine, Joshua I. | 013496/0589 | 08/14/2002 |
| 09/733,788 | Enhanced resolution mode using color image capture device | Pine, Joshua I. | 013496/0589 | 08/14/2002 |

| Application No. | Title | Inventor | Reel/Frame No. | Date of Recordation |
|-----------------|--|-------------------|----------------|---------------------|
| 09/742,786 | Automatic detection and correction of pixel defects in solid state imagers | Pine, Joshua I. | 013496/0589 | 08/14/2002 |
| 09/795,033 | Imaging system having selectable interpolation processing | Pine, Joshua I. | 013496/0589 | 08/14/2002 |
| 09/801,401 | Imaging system having an image memory between the functional processing system | Pine, Joshua I. | 013496/0589 | 08/14/2002 |
| 09/815,584 | Imaging system having adaptive clocking in response to processing state | Pine, Joshua I. | 013496/0589 | 08/14/2002 |
| 09/823,941 | NO FILE | | | |
| 09/852,397 | Chip On Board (COB) package for CMOS Imager | Tindle et al. | 013496/0589 | 08/14/2002 |
| 09/882,576 | NO FILE | | | |
| 09/935,213 | NO FILE | | | |
| 09/935,231 | Semiconductor device for isolating a photodiode to reduce junction leakage and method of formation | Mann, Richard A. | 013851/0225 | 03/17/2003 |
| 09/949,688 | Off-grid interpolation in image processing | Bao et al. | 013496/0589 | 08/14/2002 |
| 09/977,444 | NO FILE | | | |
| 10/016,713 | Method and article of manufacture for micro-lens resulting from multi-stage fabrication technique. | Bencuya, Selim S. | 014081/0620 | 05/16/2003 |
| 10/057,731 | NO FILE | | | |
| 10/072,345 | Imaging system combining multiple still images for higher resolution image output | Pine, Joshua I. | | 10/25/2001 (filed) |
| 10/102,042 | Efficient implementation of a noise removal filter | Pan, Shien-Tai | 103022/0288 | 06/24/2002 |
| 10/102,105 | Image resolution conversion using pixel dropping | Bao et al. | | 03/20/2002 (filed) |
| 10/102,410 | NO FILE | | | |
| 10/113,545 | NO FILE | | | |
| 10/119,982 | Tapered threshold reset FET for CMOS imagers | Kozlowski et al. | 013851/0225 | 03/17/2003 |

| Application No. | Title | Inventor | Reel/ Frame No. | Date of Recordation |
|-----------------|--|------------------|-----------------|---------------------|
| 10/136,268 | NO FILE | | | |
| 10/136,413 | Suppressing radiation charges from reaching dark signal sensor | Mann et al. | 013851/0225 | 03/17/2003 |
| 10/293,510 | Semiconductor device for isolating a photodiode to reduce junction leakage and method of formation | Mann, Richard A. | 013851/0225 | 03/17/2003 |
| 60/376,690 | NO FILE | | | |
| 60/376,748 | NO FILE | | | |
| 60/376,750 | NO FILE | | | |
| 60/376,751 | NO FILE | | | |